

Scoville's 'The Out-of-Doors Club.'¹— To readers of 'The Atlantic Monthly' Mr. Scoville is well known as one who is making the environs of Philadelphia as famous a region for the nature lover as those of Boston and Cambridge have long been, thanks to the larger numbers of writers on outdoor life who seem always to have lived there. The present little volume describes many trips afield in which the writer instructs his children in the wonders of the great out doors. It is impossible to imagine a child,— or a grown-up for that matter,— who will not be attracted by the experiences of the "Band." Birds, mammals, reptiles, plants and camp-lore all come in for their share of attention and the wanderings lead across the Delaware to the author's cabin in the New Jersey pines and even to the remote "plains" in the central part of that State where the famous dwarf forests of pine and oak cover many acres, a region which has probably never before been described in popular writings.

The suggestion that the unidentified peepings that one of the children heard here might have come from a brood of young Heath Hens is hardly to be taken seriously. It is an attractive way, perhaps, to introduce the fact that the birds did once occur here but the region has been too carefully explored by hunters and ornithologists to make such an occurrence at all likely, and if the author really considered it probable the fact is deserving of more serious record elsewhere. The more likely possibility of young Ruffed Grouse is not mentioned! In referring to the peculiar Conrad's Crowberry which finds on the "plains" its southernmost limit we notice that the name of this early botanist is misspelled.

Little books like Mr. Scoville's add greatly to the interest in outdoor life and vastly increase the army of nature lovers who in turn become staunch protectors of the birds and wild flowers and out of whose ranks eventually come a smaller number of real ornithologists and botanists. He who, by his writings, starts such a process of evolution is deserving of all praise. Several of Mr. Scoville's fellow members of the Delaware Valley Ornithological Club have contributed photographs which add to the attractiveness of his little volume.— W. S.

Gifford's 'Field Notes on the Land Birds of the Galapagos Islands.'²— In 1913, Mr. Gifford, one of the naturalists on the California Academy's Galapagos expedition, published an account of the water-birds and the doves obtained by the party. Having been subsequently occupied with anthropological work he has been unable to complete his report and now presents his ornithological field notes in order that they

¹ The Out-of-Doors Club. By Samuel Scoville, Jr. Philadelphia, 1919. The Sunday School Times Company. 12 mo. pp. 1-171.

² Expedition of the California Academy of Sciences to the Galapagos Islands, 1905-1906. XIII. Field Notes on the Land Birds of the Galapagos Islands and of Cocos Island, Costa Rica. Proc. Calif. Acad. Sciences. Fourth series. Vol. II, Pt. II, No. 13, pp. 189-258. pp. 189-258. June 16, 1919.

may be available to students of the Galapagos avifauna, leaving the critical study of the 5,916 specimens of land birds and the collection of nests, eggs and stomach contents for future investigation.

While it is regrettable that the entire collection could not have been worked up promptly by Mr. Gifford, who of course knows more about it than anyone else, we are nevertheless grateful for the large amount of interesting information relating to the life histories of the birds of these famous islands, which he has made available to the student.

Of the thirty-six species referred to in the paper all but three are resident forms. The Barn Swallow, was found at Cocos Island on September 2 and 5 and at Charles Island on October 11 and 12, and a Bobolink came on board the vessel in lat. $7^{\circ} 23' N.$ long., $97^{\circ} 48' W.$ on September 28 and again in lat. $14^{\circ} 24' N.$ long., $106^{\circ} 42' W.$ on October 3, these locations were between 300 and 500 miles off the Central American coast. A Redstart also came on board near the last mentioned station. These records will prove of interest to students of migration.—W. S.

Hall and Grinnell on Life-Zone Indicators in California.¹— This important and timely paper should be read by all students of geographical distribution. As the authors point out it is only the naturalist of wide experience and with a knowledge of both zoölogy and botany who can accurately judge of the zonal affinities of a given region, and as the attempt is too frequently made by those who are not so qualified, grievous errors are made and authors often, from lack of knowledge of the situation which confronts them, fall back upon the unfortunate and reprehensible practice of coining special terms of their own to fit the apparently anomalous conditions which they find. The present authors have presented a list of plants and vertebrate animals which are characteristic of the several life zones that occur in California, as a guide for those who are studying zonal distribution of life in that State. They also offer a list of influences which tend to interfere with the orderly succession of life zones as they would occur if dependent wholly upon temperature and altitude. Foremost among these is of course, slope exposure, followed by air currents, cold water streams, evaporation from moist soil, proximity to large bodies of water, influence of lingering snow banks, changes in vegetable covering, extent of mountain area, and rock surfaces. Many of these affect plant life only, though a knowledge of them may also explain many local anomalies in the distribution of animals.

The trouble heretofore seems to have been that botanists rely too much upon soil composition and character to account for distribution, while zoölogists — some at least — have ignored everything but temperature and altitude. The happy combination of a botanist and zoölogist in the

¹ Life-Zone Indicators in California. By Harvey Monroe Hall and Joseph Grinnell. Proc. Calif. Acad. Sciences. Fourth Series. Vol. IX, No. 2, pp. 37-67. June 16, 1919.